

IN THE CLAIMS

Claim 1 (original) A method for the micropropagation in tissue culture of plantlets of *Arundo donax*, comprising:

- a) obtaining explant material from meristematic tissue, juvenile or immature *Arundo donax* plant structures;
- b) cleaning said explant material to obtain aseptic explant material;
- c) introducing said aseptic explant material into a semi-solid or solid embryo induction medium, allowing for the production of mature embryos; and
- d) culturing the mature embryos on semi-solid or solid germination medium to thereby generate said plantlets.

Claim 2 (original) The method of claim 1, further comprising transferring the mature embryos from step (c) to a liquid suspension culture medium to thereby induce the production of more embryos prior to step (d).

Claim 3 (original) The method of claim 1, further comprising transferring the mature embryos from step (c) to a liquid suspension culture medium to thereby induce the production of more embryos, followed by splitting and

subculturing in fresh liquid suspension medium to induce further embryo multiplication, prior to step (d).

Claim 4 (original) The method of claim 1, further comprising transferring the plantlets or nodal segments thereof to a solid or semi-solid shoot multiplication medium to thereby obtain multiple shoots from the plantlets.

Claim 5 (original) The method of claim 1, further comprising transferring the plantlets to a rooting medium that will induce the growth of roots on the plantlets.

Claim 6 (original) The method of claim 1, wherein the embryo induction medium comprises a basal plant medium supplemented with sucrose, a gelling agent, and one or more of 2,4-dichlorophenoxyacetic acid (2,4-D), 6-benzyladenine (BA), indoleacetic acid (IAA), kinetin (K), and thidiazuron (TDZ).

Claim 7 (original) The method of claim 6, wherein the basal plant medium is LS or MS medium.

Claim 8 (original) The method of claim 7, wherein the embryo induction medium comprises LS medium supplemented with IAA, 2,4-D and sucrose.

Claim 9 (original) The method of claim 8, which contains 1.0 mg/L IAA, 2 mg/L 2,4-D and 20 g/L sucrose.

Claim 10 (original) The method of claim 1, wherein the germination medium comprises a basal plant medium supplemented with sucrose and a gelling agent.

Claim 11 (original) The method of claim 10, wherein the basal plant medium is LS or MS medium.

Claim 12 (original) The method of claim 2, wherein the liquid suspension culture medium comprises a basal plant medium supplemented with sucrose, and one or more of 2,4-dichlorophenoxyacetic acid (2,4-D), 6-benzyladenine (BA), indoleacetic acid (IAA), kinetin (K), and thidiazuron (TDZ).

Claim 13 (original) The method of claim 12, which comprises one or more of 1 – 6 mg/L 2,4-D, 0.5 – 2 mg/L BA, 1 - 3 mg/L BA, 1 – 3 mg/L K, and 0.05 – 1.0 mg/L TDZ.

Claim 14 (original) The method of claim 12, wherein the liquid suspension culture medium further comprises asparagine.

Claim 15 (original) The method of claim 4, wherein the shoot multiplication medium comprises a basal plant medium supplemented with sucrose, a gelling agent, and one or more of 2,4-dichlorophenoxyacetic acid (2,4-D), 6-benzyladenine (BA), indoleacetic acid (IAA), kinetin (K), and thidiazuron (TDZ).

Claim 16 (original) The method of claim 15, wherein the shoot multiplication medium comprises MS medium supplemented with Gamborg's vitamins, BA, TDZ and sucrose.

Claim 17 (original) The method of claim 16, which contains 1.0 mg/L BA, 0.05 mg/L TDZ and 30 g/L sucrose.

Claims 18 - 40 (withdrawn)

Claim 41 (new) The method of claim 5, wherein the rooting medium is a basal plant medium, which is at one half its concentration, supplemented with sucrose and a gelling agent.

Claim 42 (new) The method of claim 41, wherein the basal plant medium is LS or MS medium.

Claim 43 (new) The method of claim 1, which further comprises growing the resulting plantlets to the maturity of a plant that is ready to plant in the field.

Claim 44 (new) The method of claim 43, wherein the plantlets are grown to said maturity by transferring them to trays containing a high porosity soil-less potting mixture, which will float on a liquid medium in a float bed nursery apparatus that provides for conditions conducive to growth of the plantlets, and wherein said trays are placed on one end of the float bed apparatus and moved along to the opposite end of the apparatus, at which point the plantlets have reached said maturity.

Claim 45 (new) The method of claim 44, wherein new trays of plantlets are added to the float bed apparatus when trays with mature plants are removed at the opposite end, thereby operating in a continuous, conveyor belt fashion.

Claim 46 (new) The method of claim 44, wherein said float bed nursery apparatus comprises a bottom frame structure of about six inches high, which is constructed on a level smooth base to form a device to hold a liquid medium at a depth of about four to six inches, onto which a canopy framework of a sufficient height to accommodate the plants is attached to the bottom frame.

Claim 47 (new) The method of claim 46, wherein said bottom frame structure is lined with a plastic film of about 6 mils thickness to thereby hold the liquid medium.

Claim 48 (new) The method of claim 46, wherein said canopy framework is constructed of plastic pipe.

Claim 49 (new) The method of claim 46, wherein at least a portion of one end of the canopy framework under which plantlets are transferred to the float bed apparatus is covered with a material of sufficient light reduction characteristics to allow growth but protect plantlets from wilting and to acclimatize newly transplanted plantlets.

Claim 50 (new) The method of claim 46, wherein the float bed apparatus further comprises an overhead misting apparatus with emitters spaced along the linear dimension of the canopy framework to attain desired humidity.

Claim 51 (new) The method of claim 46, wherein the bottom frame structure of the float bed apparatus contains water that is supplemented with nutrients and plant growth hormones conducive to plant growth.

Claim 52 (new) The method of claim 43, wherein the plantlets are grown to said maturity by transferring them to trays containing a high porosity soil-less potting mixture, which will float on a liquid medium in an Nth float bed module that provides conditions conducive for growth of the plantlets, placing the Nth float bed module at the end of a pathway containing N -1 float bed modules, said pathway permitting movement of the Nth float bed from a first position to a second position, and permitting the Nth float bed module to move along the pathway so as to permit the Nth float bed module to arrive at the second position when the plantlets are sufficiently mature for planting proximate to the second position.

Claim 53 (new) The method of claim 52, wherein the Nth float bed is transported from the second position to the first position for introduction of a new tray of plantlets when the tray with mature plants is removed at the second position, thereby permitting the method to operate in a continuous, conveyor belt fashion.